

Math 1
Quiz 2 Review

The quiz on Tuesday, September 12 assesses the following unit standards:

- **1A: expressions** Students define quantities and interpret expressions.
- **1B: units** Students understand and use units as a way of interpreting expressions.
- **1D: inequalities** Students solve inequalities and describe the process used to solve them.
- **1E: solutions** Students represent solutions of equations and inequalities.
- **1F: systems (graphing)** Students solve systems of linear equations by graphing.
- **1H: matrix arithmetic** Students understand and perform basic matrix arithmetic, including addition, subtraction, scalar multiplication, and matrix multiplication.

You may want to bring a straightedge for drawing lines. You may also want to bring colored writing utensils.

Some things that you will want to remember for the quiz:

- When graphing the solution to an inequality in one variable that uses $<$, \leq , $>$, or \geq , if the variable is isolated and on the left hand side, then the inequality points in the direction that you should shade.
- When graphing using *any* set of axes (number line or Cartesian coordinate system), provide an appropriate scale.
- When graphing on the Cartesian coordinate system, label axes.
- When graphing more than one line/curve on the Cartesian coordinate system, provide a way to distinguish among the graphs. Methods of distinguishing include labelling each line/curve with its equation and color coding the lines/curves.
- In order to add or subtract two matrices, they must have the exact same dimensions. To add or subtract two matrices, perform the operation on the corresponding entries of the two matrices. For example:

$$\begin{pmatrix} a & b \\ c & d \end{pmatrix} + \begin{pmatrix} e & f \\ g & h \end{pmatrix} = \begin{pmatrix} a+e & b+f \\ c+g & d+h \end{pmatrix}$$

- Scalar multiplication involves distributing a scalar (a coefficient of a matrix) to all entries of the matrix. For example:

$$s \begin{pmatrix} a & b \\ c & d \end{pmatrix} = \begin{pmatrix} sa & sb \\ sc & sd \end{pmatrix}$$

- In order to multiply two matrices, the number of columns of the matrix on the left must be equal to the number of rows of the matrix on the right. Here is an example of matrix multiplication:

$$\begin{pmatrix} a & b \\ c & d \end{pmatrix} \begin{pmatrix} e & f \\ g & h \end{pmatrix} = \begin{pmatrix} ae+bg & af+bh \\ ce+dg & cf+dh \end{pmatrix}$$